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NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	JAN 17	Pre-1988 INPI data added to MARPAT
NEWS 4	FEB 21	STN AnaVist, Version 1.1, lets you share your STN AnaVist visualization results
NEWS 5	FEB 22	The IPC thesaurus added to additional patent databases on STN
NEWS 6	FEB 22	Updates in EPFULL; IPC 8 enhancements added
NEWS 7	FEB 27	New STN AnaVist pricing effective March 1, 2006
NEWS 8	MAR 03	Updates in PATDPA; addition of IPC 8 data without attributes
NEWS 9	MAR 22	EMBASE is now updated on a daily basis
NEWS 10	APR 03	New IPC 8 fields and IPC thesaurus added to PATDPAFULL
NEWS 11	APR 03	Bibliographic data updates resume; new IPC 8 fields and IPC thesaurus added in PCTFULL
NEWS 12	APR 04	STN AnaVist $500 visualization usage credit offered
NEWS 13	APR 12	LINSPEC, learning database for INSPEC, reloaded and enhanced
NEWS 14	APR 12	Improved structure highlighting in FQHIT and QHIT display in MARPAT
NEWS 15	APR 12	Derwent World Patents Index to be reloaded and enhanced during second quarter; strategies may be affected
NEWS 16	MAY 10	CA/CAplus enhanced with 1900-1906 U.S. patent records
NEWS 17	MAY 11	KOREAPAT updates resume
NEWS 18	MAY 19	Derwent World Patents Index to be reloaded and enhanced

NEWS EXPRESS FEBRUARY 15 CURRENT VERSION FOR WINDOWS IS V8.01a,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
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FILE 'HOME' ENTERED AT 09:44:32 ON 24 MAY 2006

=> file medline, biosis, wpids, fsta, dgene, biotechds, scisearch, hcaplus, uspatful
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

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FILE 'SCISEARCH' ENTERED AT 09:45:03 ON 24 MAY 2006
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FILE 'USPATFULL' ENTERED AT 09:45:03 ON 24 MAY 2006
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

=> s myxococcus xanthus
L1       21596 MYXOCOCCUS XANTHUS

=> s l1 and (expressing disorazole polyketide synthase)
L2           0 L1 AND (EXPRESSING DISORAZOLE POLYKETIDE SYNTHASE)

=> s l1 and (expressing PKs0
UNMATCHED LEFT PARENTHESIS 'AND (EXPRESSING'
The number of right parentheses in a query must be equal to the
number of left parentheses.
```

```
=> s l1 and (expressin PKS)
L3            0 L1 AND (EXPRESSIN PKS)

=> s l1 and polyketide
L4          300 L1 AND POLYKETIDE

=> s l4 and (sorangium cellulosum)
L5           75 L4 AND (SORANGIUM CELLULOSUM)

=>  s l5 and (AT domain or KS domain or ACP domain)
L6           42 L5 AND (AT DOMAIN OR KS DOMAIN OR ACP DOMAIN)

=> d l6 ti abs ibib 1-15

L6   ANSWER 1 OF 42  WPIDS  COPYRIGHT 2006 THE THOMSON CORP on STN
TI   New recombinant myxobacterial cell, useful for producing cytostatic
     polyketides, includes a gene for a mono-oxygenase tailoring enzyme.
AN   2003-731609 [69]   WPIDS
AB   WO2003072730 A UPAB: 20031027
     NOVELTY - A recombinant myxobacterial host cell (A) for culturing under
     controlled oxygen conditions contains:
          (a) functional polyketide synthase (PKS) genes; and
          (b) a gene (I) that encodes an active, oxygen-sensitive cytochrome
     P450 mono-oxygenase tailoring enzyme (II), is new.
          DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:
          (1) altering acyltransferase (AC) domain extender unit
     specificity from malonyl-CoA to methylmalonyl-CoA in epithilone (Ep) PKS,
     in a host cell, by culturing under conditions that produce (Ep) and
     adjusting oxygen pressure to provide excess dissolved oxygen; and
          (2) modulating the polyketide congener distribution in a
     myxobacterial cell by culturing under conditions for polyketide
     production and adjusting oxygen pressure during culture.
          ACTIVITY - Cytostatic.
          No biological data given.
          MECHANISM OF ACTION - Epothilones stabilize microtubules in the same
     way as paclitaxel.
          USE - (A) are used for production of polyketides, preferably
     epothilones and especially the D congener, which is the most active
     congener as regards anticancer activity.
          ADVANTAGE - Controlling the oxygen partial pressure during culture
     allows the distribution of polyketide congeners to be modulated
     without the need for genetic manipulation.
     Dwg.0/11
ACCESSION NUMBER:      2003-731609 [69]   WPIDS
DOC. NO. CPI:          C2003-201433
TITLE:                 New recombinant myxobacterial cell, useful for producing
                       cytostatic polyketides, includes a gene for a
                       mono-oxygenase tailoring enzyme.
DERWENT CLASS:         B04 C06 D16
INVENTOR(S):           FRYKMAN, S; JULIEN, B; LICARI, P J; TSURUTA, H
PATENT ASSIGNEE(S):    (FRYK-I) FRYKMAN S; (JULI-I) JULIEN B; (LICA-I) LICARI P
                       J; (TSUR-I) TSURUTA H; (KOSA-N) KOSAN BIOSCIENCES INC
COUNTRY COUNT:         103
PATENT INFORMATION:

     PATENT NO        KIND DATE     WEEK      LA   PG
     ------------------------------------------------
     WO 2003072730    A2 20030904 (200369)* EN   36
        RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS
            LU MC MW MZ NL OA PT SD SE SI SK SL SZ TR TZ UG ZM ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
            DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
            KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
```

RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

US 2004014183 A1 20040122 (200407)
AU 2003223190 A1 20030909 (200428)
EP 1485462 A2 20041215 (200482) EN
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR
KR 2004088531 A 20041016 (200514)
JP 2005518210 W 20050623 (200542) 22
CN 1639319 A 20050713 (200576)
AU 2003223190 A8 20051027 (200624)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003072730	A2	WO 2003-US5487	20030225
US 2004014183	A1 Provisional	US 2002-359821P	20020225
		US 2003-376612	20030225
AU 2003223190	A1	AU 2003-223190	20030225
EP 1485462	A2	EP 2003-719319	20030225
		WO 2003-US5487	20030225
KR 2004088531	A	KR 2004-713195	20040824
JP 2005518210	W	JP 2003-571418	20030225
		WO 2003-US5487	20030225
CN 1639319	A	CN 2003-804528	20030225
AU 2003223190	A8	AU 2003-223190	20030225

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003223190	A1 Based on	WO 2003072730
EP 1485462	A2 Based on	WO 2003072730
JP 2005518210	W Based on	WO 2003072730
AU 2003223190	A8 Based on	WO 2003072730

PRIORITY APPLN. INFO: US 2002-359821P 20020225; US 2003-376612 20030225

L6 ANSWER 2 OF 42 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
TI Recombinant host cells useful for producing polyketides e.g. epothilone or its derivatives, comprises a recombinant expression vector encoding a heterologous **polyketide** synthase gene.
AN 2002-075167 [10] WPIDS
CR 2000-400061 [34]; 2003-019091 [01]
AB WO 200183800 A UPAB: 20060224
NOVELTY - A recombinant host cell, (I), of the suborder Cystobacterineae comprising a recombinant expression vector encoding a heterologous **polyketide** synthase (PKS) gene and produces a **polyketide** synthesized by the PKS enzyme encoded on the vector, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) an epothilone derivative of formula (II) produced by culturing (I) with a diketide equivalent compound of formula (III);
(2) purifying (M1) an epothilone from a cell that produces epothilone, comprises culturing the cell in the presence of XAD resin, eluting epothilone from the resin, performing a solid phase extraction of epothilone eluted from the resin, and performing chromatography on epothilone resulting from the solid phase extraction;
(3) crystalline epothilone D obtained after purification of epothilone from a cell;
(4) fermentation (M2) of a Myxococcus host cell, comprising culturing

the cell in liquid medium comprising a fatty acid or oil as a carbon source; and

(5) an isolated compound of formula (IV).

R1, R2, R3, R5, R11, and R12 = hydrogen, methyl, or ethyl;

R4, R6 and R9 = hydrogen, hydroxyl, or oxo;

R5 and R6 = together from a carbon carbon double bond;

R7 = hydrogen, methyl, or ethyl;

R8 and R10 = both hydrogen or together from a carbon carbon double bond or an epoxide;

Ar = aryl;

W = O or NR13;

R13 = hydrogen, 1-10C aliphatic, aryl or alkylaryl;

R7a = hydrogen or methyl; and

Ary = aryl selected from formulas of (1)-(26);

R = hydrogen, hydroxy, halogen, amino, 1-5C alkyl, 1-5C hydroxyalkyl, 1-5C alkoxy, and 1-5C aminoalkyl.

ACTIVITY - Cytostatic; antipsoriatic; antiarthritic; antiarteriosclerotic; antiinflammatory; neuroprotective; vasotropic.

MECHANISM OF ACTION - Modulator.

USE - (I) is useful for producing a **polyketide**. (M1) is also useful for treating cancer, hyperproliferative diseases and conditions such as psoriasis, inflammation, sarcomas, neoplasms, lymphomas, multiple sclerosis, rheumatoid arthritis, atherosclerosis and/or restenosis. It improves **polyketide** production in any organism and also for production of products of recombinant PKS genes and modification enzymes.

ADVANTAGE - The host cell produces epothilones or epothilone derivatives that is easier to manipulate and ferment than the natural producer **Sorangium cellulosum** and that produces more of the desired **polyketide** product. (I) produces polyketides as high levels and are useful in the production of not only epothilones, including new epothilone derivatives, but also other polyketides.

Dwg.0/13

ACCESSION NUMBER: 2002-075167 [10] WPIDS

CROSS REFERENCE: 2000-400061 [34]; 2003-019091 [01]

DOC. NO. CPI: C2002-022389

TITLE: Recombinant host cells useful for producing polyketides e.g. epothilone or its derivatives, comprises a recombinant expression vector encoding a heterologous **polyketide** synthase gene.

DERWENT CLASS: B04 D16

INVENTOR(S): ARSLANIAN, R L; ASHLEY, G; FRYKMAN, S; JULIEN, B; KATZ, L; KHOSLA, C; LAU, J; LICARI, P J; REGENTIN, R; SANTI, D; TANG, L; LICARDI, P J; CARNEY, J R; METCALF, B; CARNEY, J; BRYAN, J

PATENT ASSIGNEE(S): (KOSA-N) KOSAN BIOSCIENCES INC; (ARSL-I) ARSLANIAN R L; (CARN-I) CARNEY J R; (METC-I) METCALF B; (ASHL-I) ASHLEY G; (CARN-I) CARNEY J; (TANG-I) TANG L; (FRYK-I) FRYKMAN S; (JULI-I) JULIEN B; (KATZ-I) KATZ L; (KHOS-I) KHOSLA C; (LAUJ-I) LAU J; (LICA-I) LICARI P J; (REGE-I) REGENTIN R; (SANT-I) SANTI D

COUNTRY COUNT: 95

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001083800	A2	20011108	(200210)*	EN	221

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001095195 A 20011112 (200222)
US 2002156110 A1 20021024 (200277)
US 6489314 B1 20021203 (200301)
US 2003045711 A1 20030306 (200320)
US 2003073205 A1 20030417 (200329)
EP 1320611 A2 20030625 (200341) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
US 6589968 B2 20030708 (200353)
JP 2004508810 W 20040325 (200422) 597
KR 2003032942 A 20030426 (200451)
CN 1511192 A 20040707 (200467)
MX 2002010565 A1 20040601 (200504)
ZA 2002007688 A 20050126 (200513) 233
US 2005038086 A1 20050217 (200514)
US 6893859 B2 20050517 (200533)
EP 1320611 B1 20051109 (200574) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
DE 60114865 E 20051215 (200582)
US 6998256 B2 20060214 (200613)

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2001083800	A2		WO 2001-US13793	20010426
AU 2001095195	A		AU 2001-95195	20010426
US 2002156110	A1	Provisional	US 2001-269020P	20010213
			US 2001-825876	20010403
US 6489314	B1		US 2001-825856	20010403
US 2003045711	A1	Provisional	US 2001-269020P	20010213
		CIP of	US 2001-825856	20010403
		CIP of	US 2001-825876	20010403
			US 2002-115198	20020402
US 2003073205	A1	Provisional	US 2000-232696P	20000914
		Provisional	US 2000-257517P	20001221
		Provisional	US 2001-269020P	20010213
			US 2001-957483	20010919
EP 1320611	A2		EP 2001-973782	20010426
			WO 2001-US13793	20010426
US 6589968	B2	Provisional	US 2001-269020P	20010213
			US 2001-825876	20010403
JP 2004508810	W		JP 2001-580407	20010426
			WO 2001-US13793	20010426
KR 2003032942	A		KR 2002-714529	20021028
CN 1511192	A		CN 2001-808711	20010426
MX 2002010565	A1		WO 2001-US13793	20010426
			MX 2002-10565	20021025
ZA 2002007688	A		ZA 2002-7688	20020925
US 2005038086	A1	Provisional	US 2001-269020P	20010213
		CIP of	US 2001-825856	20010403
		CIP of	US 2001-825876	20010403
		Div ex	US 2002-115198	20020402
			US 2004-845467	20040512
US 6893859	B2	Provisional	US 2001-269020P	20010213
		CIP of	US 2001-825856	20010403
		CIP of	US 2001-825876	20010403
			US 2002-115198	20020402
EP 1320611	B1		EP 2001-973782	20010426
			WO 2001-US13793	20010426
DE 60114865	E		DE 2001-00114865	20010426
			EP 2001-973782	20010426
			WO 2001-US13793	20010426

US 6998256	B2 CIP of	US 2000-560367	20000428
	Provisional	US 2000-232696P	20000914
	Provisional	US 2000-257517P	20001221
	Provisional	US 2001-269020P	20010213
	CIP of	US 2001-825856	20010403
	CIP of	US 2001-825857	20010403
	CIP of	WO 2001-US13793	20010426
		US 2001-957483	20010919

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001095195	A	Based on	WO 2001083800
EP 1320611	A2	Based on	WO 2001083800
JP 2004508810	W	Based on	WO 2001083800
MX 2002010565	A1	Based on	WO 2001083800
US 2005038086	A1	CIP of	US 6489314
		CIP of	US 6589968
US 6893859	B2	CIP of	US 6489314
		CIP of	US 6589968
EP 1320611	B1	Based on	WO 2001083800
DE 60114865	E	Based on	EP 1320611
		Based on	WO 2001083800

PRIORITY APPLN. INFO: US 2001-825876 20010403; US
2000-560367 20000428; US
2000-232696P 20000914; US
2000-257517P 20001221; US
2001-269020P 20010213; US
2001-825856 20010403; US
2002-115198 20020402; US
2004-845467 20040512; US
2001-825857 20010403

L6 ANSWER 3 OF 42 DGENE COPYRIGHT 2006 The Thomson Corp on STN

TI Novel isolated recombinant polynucleotide comprising nucleotide sequence encoding disorazole **polyketide** synthase protein or fragment comprising **domain** of **polyketide** synthase protein, useful in human and veterinary medicine.

AN ADP64458 DNA DGENE

AB The present invention describes an isolated recombinant polynucleotide (I) comprising a nucleotide sequence encoding a disorazole **polyketide** synthase (PKS) protein or a fragment comprising one or more domains of the PKS. Also described: (1) vector (II) comprising (I); (2) recombinant host cell (III) comprising (II), or (I) integrated into the cell chromosomal DNA; (3) chimeric PKS (IV) comprising one or more **domain** of a disorazole PKS; (4) modified functional disorazole PKS (V) differing from the native disorazole PKS by the inactivation of one or more **domain** of the disorazole PKS and/or addition of one or more **domain** of a non- disorazole PKS; (5) cell comprising (IV) or (V); (6) recombinant expression system (VI) capable of producing a disorazole synthase **domain** in a host cell, where the system comprises an encoding sequence for a disorazole **polyketide** synthase **domain**, and the encoding sequence is operably linked to control sequences effective in the cell to produce RNA that is translated into the **domain**; (7) host cell modified to contain (VI); (8) recombinant **Sorangium cellulosum** (Polyangium cellulosum) cell in which a dszA, dszB, dszC or dszD gene is disrupted to reduce or eliminate production of disorazole; (9) an isolated polypeptide encoded by (I); (10) hybrid **polyketide** synthase comprising one or more polypeptides of a disorazole PKS and one or more polypeptides of a non- disorazole PKS; and (11) recombinant DNA

molecule, comprising a sequence of at least 200 base pairs with a sequence identical or substantially identical to a protein encoding region of the 77294 base pair sequence of SEQ ID NO:1 (S1). (I) has antimicrobial activities, and can be used as an inhibitor of tubulin polymerisation, and induces decay of microtubules. (I) is useful for producing disorazole polyketides. (III) is useful for producing a **polyketide**, which involves growing (III) under conditions, where a **polyketide** synthesised by a PKS comprising a protein encoded by the polynucleotide molecule is produced in the cell. (I) is useful for producing libraries of PKSs, where the **polyketide** producing colonies are identified and isolated, and the produced polyketides are used collectively in a panel to represent a library or assessed individually for activity. The disorazole **polyketide** produced by (I) is useful in molecular biology, chemistry, recombinant DNA technology, human and veterinary medicine and agricultural applications. The disorazole **polyketide** produced by (I) is formulated as a pharmaceutical composition, useful for its activity against microorganisms, in a mammal. The present sequence represents a PCR primer for the **Sorangium cellulosum** (Polyangium cellulosum) disorazole PKS, which is used in an example from the present invention for producing a **Myxococcus xanthus** host cell expressing the disorazole PKS and capable of producing disorazole.

ACCESSION NUMBER: ADP64458 DNA DGENE
TITLE: Novel isolated recombinant polynucleotide comprising nucleotide sequence encoding disorazole **polyketide** synthase protein or fragment comprising **domain** of **polyketide** synthase protein, useful in human and veterinary medicine.
INVENTOR: Julien B; Reid R C
PATENT ASSIGNEE: (KOSA-N)KOSAN BIOSCIENCES INC.
PATENT INFO: WO 2004053065 A2 20040624 72
APPLICATION INFO: WO 2003-US38500 20031205
PRIORITY INFO: US 2002-431272P 20021206
US 2003-455521P 20030317
US 2003-465038P 20030423
US 2003-473311P 20030522
US 2003-484934P 20030702
US 2003-512892P 20031020
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2004-468841 [44]
DESCRIPTION: **Sorangium cellulosum** disorazole PKS PCR primer SEQ ID NO:5.

L6 ANSWER 4 OF 42 DGENE COPYRIGHT 2006 The Thomson Corp on STN
TI Novel isolated recombinant polynucleotide comprising nucleotide sequence encoding disorazole **polyketide** synthase protein or fragment comprising **domain** of **polyketide** synthase protein, useful in human and veterinary medicine.
AN ADP64459 DNA DGENE
AB The present invention describes an isolated recombinant polynucleotide (I) comprising a nucleotide sequence encoding a disorazole **polyketide** synthase (PKS) protein or a fragment comprising one or more domains of the PKS. Also described: (1) vector (II) comprising (I); (2) recombinant host cell (III) comprising (II), or (I) integrated into the cell chromosomal DNA; (3) chimeric PKS (IV) comprising one or more **domain** of a disorazole PKS; (4) modified functional disorazole PKS (V) differing from the native disorazole PKS by the inactivation of one or more **domain** of the disorazole PKS and/or addition of one or more **domain** of a non- disorazole PKS; (5) cell comprising (IV) or (V); (6) recombinant expression system (VI) capable of producing a disorazole synthase **domain** in a host cell, where the system comprises an encoding sequence for a disorazole

polyketide synthase **domain**, and the encoding sequence is operably linked to control sequences effective in the cell to produce RNA that is translated into the **domain**; (7) host cell modified to contain (VI); (8) recombinant **Sorangium cellulosum** (Polyangium cellulosum) cell in which a dszA, dszB, dszC or dszD gene is disrupted to reduce or eliminate production of disorazole; (9) an isolated polypeptide encoded by (I); (10) hybrid **polyketide** synthase comprising one or more polypeptides of a disorazole PKS and one or more polypeptides of a non- disorazole PKS; and (11) recombinant DNA molecule, comprising a sequence of at least 200 base pairs with a sequence identical or substantially identical to a protein encoding region of the 77294 base pair sequence of SEQ ID NO:1 (S1). (I) has antimicrobial activities, and can be used as an inhibitor of tubulin polymerisation, and induces decay of microtubules. (I) is useful for producing disorazole polyketides. (III) is useful for producing a **polyketide**, which involves growing (III) under conditions, where a **polyketide** synthesised by a PKS comprising a protein encoded by the polynucleotide molecule is produced in the cell. (I) is useful for producing libraries of PKSs, where the **polyketide** producing colonies are identified and isolated, and the produced polyketides are used collectively in a panel to represent a library or assessed individually for activity. The disorazole **polyketide** produced by (I) is useful in molecular biology, chemistry, recombinant DNA technology, human and veterinary medicine and agricultural applications. The disorazole **polyketide** produced by (I) is formulated as a pharmaceutical composition, useful for its activity against microorganisms, in a mammal. The present sequence represents a probe for the **Sorangium cellulosum** (Polyangium cellulosum) disorazole PKS, which is used in an example from the present invention for producing a **Myxococcus xanthus** host cell expressing the disorazole PKS and capable of producing disorazole.

ACCESSION NUMBER: ADP64459 DNA DGENE
TITLE: Novel isolated recombinant polynucleotide comprising nucleotide sequence encoding disorazole **polyketide** synthase protein or fragment comprising **domain** of **polyketide** synthase protein, useful in human and veterinary medicine.
INVENTOR: Julien B; Reid R C
PATENT ASSIGNEE: (KOSA-N)KOSAN BIOSCIENCES INC.
PATENT INFO: WO 2004053065 A2 20040624 72
APPLICATION INFO: WO 2003-US38500 20031205
PRIORITY INFO: US 2002-431272P 20021206
US 2003-455521P 20030317
US 2003-465038P 20030423
US 2003-473311P 20030522
US 2003-484934P 20030702
US 2003-512892P 20031020
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2004-468841 [44]
DESCRIPTION: **Sorangium cellulosum** disorazole PKS probe SEQ ID NO:6.

L6 ANSWER 5 OF 42 DGENE COPYRIGHT 2006 The Thomson Corp on STN
TI Novel isolated recombinant polynucleotide comprising nucleotide sequence encoding disorazole **polyketide** synthase protein or fragment comprising **domain** of **polyketide** synthase protein, useful in human and veterinary medicine.
AN ADP64457 DNA DGENE
AB The present invention describes an isolated recombinant polynucleotide (I) comprising a nucleotide sequence encoding a disorazole **polyketide** synthase (PKS) protein or a fragment comprising one or more domains of the PKS. Also described: (1) vector (II) comprising

(I); (2) recombinant host cell (III) comprising (II), or (I) integrated into the cell chromosomal DNA; (3) chimeric PKS (IV) comprising one or more **domain** of a disorazole PKS; (4) modified functional disorazole PKS (V) differing from the native disorazole PKS by the inactivation of one or more **domain** of the disorazole PKS and/or addition of one or more **domain** of a non- disorazole PKS; (5) cell comprising (IV) or (V); (6) recombinant expression system (VI) capable of producing a disorazole synthase **domain** in a host cell, where the system comprises an encoding sequence for a disorazole **polyketide** synthase **domain**, and the encoding sequence is operably linked to control sequences effective in the cell to produce RNA that is translated into the **domain**; (7) host cell modified to contain (VI); (8) recombinant **Sorangium cellulosum** (Polyangium cellulosum) cell in which a dszA, dszB, dszC or dszD gene is disrupted to reduce or eliminate production of disorazole; (9) an isolated polypeptide encoded by (I); (10) hybrid **polyketide** synthase comprising one or more polypeptides of a disorazole PKS and one or more polypeptides of a non- disorazole PKS; and (11) recombinant DNA molecule, comprising a sequence of at least 200 base pairs with a sequence identical or substantially identical to a protein encoding region of the 77294 base pair sequence of SEQ ID NO:1 (S1). (I) has antimicrobial activities, and can be used as an inhibitor of tubulin polymerisation, and induces decay of microtubules. (I) is useful for producing disorazole polyketides. (III) is useful for producing a **polyketide**, which involves growing (III) under conditions, where a **polyketide** synthesised by a PKS comprising a protein encoded by the polynucleotide molecule is produced in the cell. (I) is useful for producing libraries of PKSs, where the **polyketide** producing colonies are identified and isolated, and the produced polyketides are used collectively in a panel to represent a library or assessed individually for activity. The disorazole **polyketide** produced by (I) is useful in molecular biology, chemistry, recombinant DNA technology, human and veterinary medicine and agricultural applications. The disorazole **polyketide** produced by (I) is formulated as a pharmaceutical composition, useful for its activity against microorganisms, in a mammal. The present sequence represents a PCR primer for the **Sorangium cellulosum** (Polyangium cellulosum) disorazole PKS, which is used in an example from the present invention for producing a **Myxococcus xanthus** host cell expressing the disorazole PKS and capable of producing disorazole.

ACCESSION NUMBER: ADP64457 DNA DGENE
TITLE: Novel isolated recombinant polynucleotide comprising nucleotide sequence encoding disorazole **polyketide** synthase protein or fragment comprising **domain** of **polyketide** synthase protein, useful in human and veterinary medicine.
INVENTOR: Julien B; Reid R C
PATENT ASSIGNEE: (KOSA-N)KOSAN BIOSCIENCES INC.
PATENT INFO: WO 2004053065 A2 20040624 72
APPLICATION INFO: WO 2003-US38500 20031205
PRIORITY INFO: US 2002-431272P 20021206
US 2003-455521P 20030317
US 2003-465038P 20030423
US 2003-473311P 20030522
US 2003-484934P 20030702
US 2003-512892P 20031020
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2004-468841 [44]
DESCRIPTION: **Sorangium cellulosum** disorazole PKS PCR primer SEQ ID NO:4.

L6 ANSWER 6 OF 42 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN

TI New recombinant myxobacterial cell, useful for producing cytostatic polyketides, includes a gene for a mono-oxygenase tailoring enzyme; **polyketide** preparation by recombinant bacterium host cell for cancer therapy

AN 2003-25533 BIOTECHDS

AB DERWENT ABSTRACT:

NOVELTY - A recombinant myxobacterial host cell (A) for culturing under controlled oxygen conditions contains: (a) functional **polyketide** synthase (PKS) genes; and (b) a gene (I) that encodes an active, oxygen-sensitive cytochrome P450 mono-oxygenase tailoring enzyme (II), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) altering acyltransferase (AC) **domain** extender unit specificity from malonyl-CoA to methylmalonyl-CoA in epithilone (Ep) PKS, in a host cell, by culturing under conditions that produce (Ep) and adjusting oxygen pressure to provide excess dissolved oxygen; and (2) modulating the **polyketide** congener distribution in a myxobacterial cell by culturing under conditions for **polyketide** production and adjusting oxygen pressure during culture.

WIDER DISCLOSURE - New polyketides produced by metabolically engineered cells having an active EpoK mono-oxygenase, specifically epithilone 506, produced by Payne rearrangement from 10,11-didehydroepothilone B under excess oxygen conditions.

BIOTECHNOLOGY - Preferred Materials: The **polyketide** being synthesized is epothilone (Ep), (A) is **Sorangium cellulosum** K111-150.17 and (II) is EpoK epoxidase. Preferred Method: In method (2), the growth medium may be supplemented with serine, acetate or propionate, and oxygen pressure is low so that the congener formed is EpD. The cell may be K111-150.17 or **Myxococcus xanthus** K111.32.25, or M. xanthus that has an active EpoK mono-oxygenase. Under low oxygen pressure, EpD is produced at up to 4 times higher concentration than when grown with excess oxygen, specifically oxygen deprivation shifts synthesis from Ep A and B to Ep C and D, and the D:C ratio is at least 3:1 under excess oxygen conditions. Production of Ep B and D, which contain a methyl group at C12, is favored by altering the acyltransferase (AC) **domain** extender unit specificity.

ACTIVITY - Cytostatic. No biological data given.

MECHANISM OF ACTION - Epothilones stabilize microtubules in the same way as paclitaxel.

USE - (A) are used for production of polyketides, preferably epothilones and especially the D congener, which is the most active congener as regards anticancer activity.

ADVANTAGE - Controlling the oxygen partial pressure during culture allows the distribution of **polyketide** congeners to be modulated without the need for genetic manipulation.

EXAMPLE - **Myxococcus xanthus** strain K111-40.1 in which the EpoK epoxidase gene had been inactivated and the epothilone **polyketide** synthesis genes from **Sorangium cellulosum** have been inserted, was grown under excess oxygen conditions (at least 50% air saturation). After 12-14 days, the amount of epothilone (Ep) D was 30 mg/l; no Ep B was formed; total Ep A and D was 36 mg/l and the EpD to EpC ratio was 5.2:1. When a similar strain having a functional EpoK gene was used, the yield of EpB was 48 mg/l and that of EpD only 3 mg/l. (36 pages)

ACCESSION NUMBER: 2003-25533 BIOTECHDS

TITLE: New recombinant myxobacterial cell, useful for producing cytostatic polyketides, includes a gene for a mono-oxygenase tailoring enzyme; **polyketide** preparation by recombinant bacterium host cell for cancer therapy

AUTHOR: LICARI P J; JULIEN B; FRYKMAN S; TSURUTA H

PATENT ASSIGNEE: KOSAN BIOSCIENCES INC

PATENT INFO: WO 2003072730 4 Sep 2003
APPLICATION INFO: WO 2003-US5487 25 Feb 2003
PRIORITY INFO: US 2002-359821 25 Feb 2002; US 2002-359821 25 Feb 2002
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2003-731609 [69]

L6 ANSWER 7 OF 42 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
TI Recombinant host cells useful for producing polyketides e.g. epothilone or its derivatives, comprises a recombinant expression vector encoding a heterologous **polyketide** synthase gene;
plasmid pKOS35-82.1 and plasmid pKOS35-82.2-mediated recombinant enzyme production and expression in Myxococcus fulvus, **Myxococcus xanthus**, Myxococcus virescens, Stigmatella erecta and Stigmatella aurantiaca viaelectroporation for cancer, hyperproliferative disease, psoriasis, inflammation, sarcoma, neoplasm, lymphoma, multiple sclerosis, rheumatoid arthritis, atherosclerosis and restenosis therapy
AN 2002-05962 BIOTECHDS
AB DERWENT ABSTRACT:
NOVELTY - A recombinant host cell, (I), of the suborder Cystobacterineae comprising a recombinant expression vector encoding a heterologous **polyketide** synthase (PKS) gene and produces a **polyketide** synthesized by the PKS enzyme encoded on the vector, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) an epothilone derivative of formula (II) produced by culturing (I) with a diketide equivalent compound of formula (III); (2) purifying (M1) an epothilone from a cell that produces epothilone, comprises culturing the cell in the presence of XAD resin, eluting epothilone from the resin, performing a solid phase extraction of epothilone eluted from the resin, and performing chromatography on epothilone resulting from the solid phase extraction; (3) crystalline epothilone D obtained after purification of epothilone from a cell; (4) fermentation (M2) of a Myxococcus host cell, comprising culturing the cell in liquid medium comprising a fatty acid or oil as a carbon source; and (5) an isolated compound of formula (IV). R1, R2, R3, R5, R11, and R12 = hydrogen, methyl, or ethyl; R4, R6 and R9 = hydrogen, hydroxyl, or oxo; R5 and R6 = together from a carbon carbon double bond; R7 = hydrogen, methyl, or ethyl; R8 and R10 = both hydrogen or together from a carbon carbon double bond or an epoxide; Ar = aryl; W = O or NR13; R13 = hydrogen, 1-10C aliphatic, aryl or alkylaryl; R7a = hydrogen or methyl; and Ary = aryl selected from formulas of (1)-(26); R = hydrogen, hydroxy, halogen, amino, 1-5C alkyl, 1-5C hydroxyalkyl, 1-5C alkoxy, and 1-5C aminoalkyl.

WIDER DISCLOSURE - The following are disclosed: (A) recombinant DNA vectors capable of chromosomal integration or extrachromosomal replication in (I); (B) a hybrid PKS genes in which there is no second PKS gene present but which differ from a naturally occurring PKS gene by one or more mutations and/or deletions; (C) recombinant PKS enzymes composed of the products of the epoA, epoC, epoD, epoE and epoF (or their modified versions) genes without NRPS module or with an NRPS module from a heterologous PKS; (D) recombinant epothilone PKS enzyme and corresponding recombinant DNA compound and vectors in which the NRPS module has been inactivated or deleted; (E) fermentation medium of (I); and (F) purifying epothilones from fermentation medium and for preparing crystalline forms of epothilone.

BIOTECHNOLOGY - Preferred Cell: The host cell is selected from Myxococcaceae family which include genus Angiococcus, Myxococcus, and Corallococcus; and Cystobacteraceae family which include genus Cystobacter, Melittangium, Stigmatella, and Archangium. The host cell further comprises a heterologous gene that encodes for an enzyme selected from enzyme that transports compound into the cell that is utilized in biosynthesis of the **polyketide**, an enzyme that synthesizes a

compound utilized in biosynthesis of the **polyketide**, and an enzyme that phosphopantethinylates a PKS, which are preferably MatB, MatC and MatA. The epothilone of epothilone derivative is preferably produced by a PKS gene under the control of a promoter selected from promoter from an S.cellulosum epothilone PKS gene, a promoter from a myxothiazol biosynthesis gene, a promoter from a TA biosynthesis gene, a pil A promoter, a promoter from a kanamycin resistance conferring gene, and a So ce90 promoter. Preferred Method: (M1) further comprises a crystallization step in (M2), fermentation is preferably a fed-batch fermentation, where the host cell produces an epothilone, or its derivative that contains an oxazole instead of thiazole, and the liquid medium comprises L-serine. The method for producing polyketides comprises culturing (I) under conditions such that a PKS gene encoded on the vector is expressed and the **polyketide** is produced; where the **polyketide** is preferably epothilone or epothilone derivative which include epothilones A, B, C, and D and where the derivative is produced by **Myxococcus xanthus** K111-32.35, which produces preferably epothilones A and B as major products and C and D as minor products, and (I) that produces epothilones C and D as major products, does not contain an epoK gene or does not express a fully functional epoK gene product, which is preferably **Myxococcus xanthus** K111-40.1, **Myxococcus xanthus** K111-72.4.4. (I) preferably contains an epothiolone PKS gene in which a coding sequence for a module of PKS, has been altered by mutation, deletion, or replacement, where the module is preferably extender module 6, which lacks a functional ketoreductase **domain** and produces a 9-keto epothilone; extender module 5 which lacks functional dehydratase and produces 13-hydroxy epithiolone; extender module 4 which lacks functional ketoreductase and produces 13-keto epothilone; extender module 2, where the coding sequence for the ketosynthase **domain** has been altered by mutation to change an active site cysteine to another amino acid, and which host cell must be provided a diketide equivalent compound to produce an epothiolone or epothilone derivative and (I) is **Myxococcus xanthus** K90.132.1.1.2; extender module 1, which has been changed so that it binds an amino acid other than cysteine; or a loading module, which has been replaced with a module that binds an amino acid.

ACTIVITY - Cytostatic; antipsoriatic; antiarthritic; antiarteriosclerotic; antiinflammatory; neuroprotective; vasotropic.

MECHANISM OF ACTION - Modulator.

USE - (I) is useful for producing a **polyketide**. (M1) is also useful for treating cancer, hyperproliferative diseases and conditions such as psoriasis, inflammation, sarcomas, neoplasms, lymphomas, multiple sclerosis, rheumatoid arthritis, atherosclerosis and/or restenosis. It improves **polyketide** production in any organism and also for production of products of recombinant PKS genes and modification enzymes.

ADMINISTRATION - The compound is administered as a bolus or continuous infusion. Dosage is 1-200 mg/m2.

ADVANTAGE - The host cell produces epothilones or epothilone derivatives that is easier to manipulate and ferment than the natural producer **Sorangium cellulosum** and that produces more of the desired **polyketide** product. (I) produces polyketides as high levels and are useful in the production of not only epothilones, including new epothilone derivatives, but also other polyketides.

EXAMPLE - To construct an illustrative vector, the promoter of the pilA gene of **Myxococcus xanthus** was isolated as a PCR amplification product. Plasmid pSWU356, which comprises the pilA gene promoter and was described in Wu and Kaiser, Dec. 1997, J.Back. 179(24):7748-7758 was mixed with PCR primers Seq1 and Mxpil1 primers Seq1:5'-AGCGGATAACAATTTCACACAGGAAACAGC-3' and Mxpil1: 5'-TTAATTAAGAGAAGGTTGCAACGGGGGGC-3', and amplified using standard PCR conditions to yield an approximately 800 bp fragment. This fragment was

cleaved with restriction enzyme KpnI and ligated to the large KpnI-EcoRV restriction fragment of commercially available plasmid pLitmus 28. The resulting circular DNA was designated plasmid pKOS35-71B. The promoter of the pilA gene from plasmid KOS35-71B was isolated as an approximately 800 bp EcoRV-SnaBI restriction fragment and ligated with the large MscI restriction fragment plasmid KOS35-77 to yield a circular DNA approximately 6.8 kb in size. Because the approximately 800 bp fragment can be inserted in either one of two orientations, the ligation produced two plasmids of the same size, which were designated as plasmids pKOS35-82.1 and pKOS35-82.2. **Myxococcus xanthus** cells were grown in CYE media Campos and Zusman, 1975, Regulation of development in **Myxococcus xanthus**: effect of 3':5'-cyclic AMP, ADP, and nutrition, Proc. Natl. Acad. Sci. USA 72: 518-522 to a Klett of 100 at 30 degrees C at 300 rpm. The cells were then pelleted by centrifugation and resuspended in deionized water. The cells were again pelleted and resuspended in 1/100th of the original volume. DNA was electroporated into the cells in a 0.1 cm cuvette at room temperature at 400 ohm, 25 micro FD, 0.65 V with a time constant in the range of 8.8-9.4. Immediately after electroporation, 1 ml of CYE was added, and the cells in the cuvette pooled with an additional, 1 ml of CYE . The cells were grown to allow for expression of the selectable marker. Then, the cells were plated in CYE soft agar on plates with selection. With kanamycin as the selectable marker, typical yields were 103-105 per micro g of DNA. (221 pages)

ACCESSION NUMBER: 2002-05962 BIOTECHDS
TITLE: Recombinant host cells useful for producing polyketides e.g. epothilone or its derivatives, comprises a recombinant expression vector encoding a heterologous **polyketide** synthase gene;
plasmid pKOS35-82.1 and plasmid pKOS35-82.2-mediated recombinant enzyme production and expression in Myxococcus fulvus, **Myxococcus xanthus**, Myxococcus virescens, Stigmatella erecta and Stigmatella aurantiaca viaelectroporation for cancer, hyperproliferative disease, psoriasis, inflammation, sarcoma, neoplasm, lymphoma, multiple sclerosis, rheumatoid arthritis, atherosclerosis and restenosis therapy
AUTHOR: ARSLANIAN R L; ASHLEY G; FRYKMAN S; JULIEN B; KATZ L; KHOSLA C; LAU J; LICARDI P J; REGENTIN R; SANTI D; TANG L
PATENT ASSIGNEE: KOSAN BIOSCIENCES INC
PATENT INFO: WO 2001083800 8 Nov 2001
APPLICATION INFO: WO 2000-US13793 28 Apr 2000
PRIORITY INFO: US 2001-269020 13 Apr 2001
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-075167 [10]

L6 ANSWER 8 OF 42 HCAPLUS COPYRIGHT 2006 ACS on STN
TI Production of epothilones derivatives in Myxococcus or Sorangium comprising PKS mutant gene
AB Described is a method for production of epothilones derivs. in Myxococcus or Sorangium comprising PKS mutant gene. The invention also relates to the uses of these compds. in preparing medicine composition for treating tumor, inhibiting cell proliferation and growth.

ACCESSION NUMBER: 2005:460208 HCAPLUS
DOCUMENT NUMBER: 143:171398
TITLE: Production of epothilones derivatives in Myxococcus or Sorangium comprising PKS mutant gene
INVENTOR(S): Qiu, Rongguo
PATENT ASSIGNEE(S): Beijing Huahao Zhongtian Biotechnology Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, No pp. given

CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1521258	A	20040818	CN 2003-103031	20030128

PRIORITY APPLN. INFO.: CN 2003-103031 20030128

L6 ANSWER 9 OF 42 HCAPLUS COPYRIGHT 2006 ACS on STN

TI Cloning, characterization and sequence of disorazole **polyketide** synthase gene cluster from **Sorangium cellulosum** and use for production of disorasole

AB Domains of disorazole **polyketide** synthase from **Sorangium cellulosum** and polynucleotides encoding them are provided. Cloning of the S. cellulosum disorazole **polyketide** synthase gene cluster is described and the nucleotide sequence of the the S. cellulosum disorazole PKS gene cluster is disclosed. Methods to prepare disorazoles in pharmaceutically useful quantities are described, as are methods to prepare disorazole analogs and other polyketides using the polynucleotides encoding disorazole **polyketide** synthase domains or modifying enzymes. Creation of a **Myxococcus xanthus** host cell expressing the disorazole PKS and capable of producing disorasole is described.

ACCESSION NUMBER: 2004:515643 HCAPLUS
DOCUMENT NUMBER: 141:66289
TITLE: Cloning, characterization and sequence of disorazole **polyketide** synthase gene cluster from **Sorangium cellulosum** and use for production of disorasole
INVENTOR(S): Julien, Bryan; Reid, Ralph C.
PATENT ASSIGNEE(S): Kosan Biosciences, Inc., USA
SOURCE: PCT Int. Appl., 72 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004053065	A2	20040624	WO 2003-US38500	20031205
WO 2004053065	A3	20060330		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003298864	A1	20040630	AU 2003-298864	20031205
US 2005032184	A1	20050210	US 2003-729802	20031205

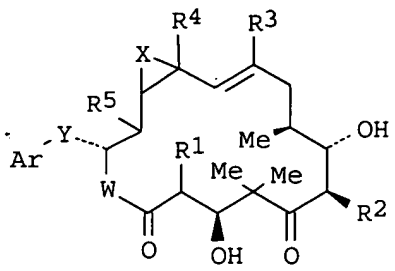
PRIORITY APPLN. INFO.:

US 2002-431272P	P	20021206
US 2003-455521P	P	20030317
US 2003-465038P	P	20030423
US 2003-473311P	P	20030522
US 2003-484934P	P	20030702
US 2003-512892P	P	20031020

L6 ANSWER 10 OF 42 HCAPLUS COPYRIGHT 2006 ACS on STN

TI Preparation of epothilone derivatives for pharmaceutical use in the treatment of cancer and other disorders characterized by cellular hyperproliferation

GI



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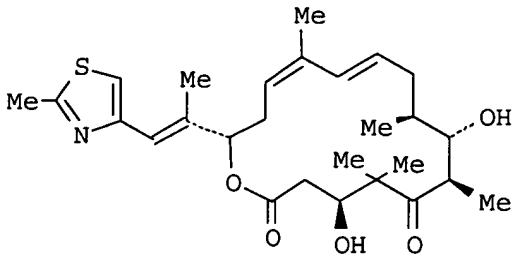

II

AB Epothilone derivs., such as I [R1, R2, R3 = H, alkyl, alkenyl, alkynyl, aryl, alkylaryl; R4 = alkyl, hydroxyalkyl, haloalkyl, aryl, ester, amino; R5 = H, alkyl, alkoxy, alkenyl,alkynyl, aryl, alkylaryl; W = O, NR8; R8 = H, alkyl, alkenyl, alkynyl, aryl, alkylaryl; X = O, CH2, a bond; Y = absent, alkyl, alkenyl, alkynyl; Ar = aryl], pharmaceutically acceptable salts and solvates thereof, were prepared for therapeutic use in the treatment of cancer and non-cancer disorders characterized by cellular hyperproliferation. Thus, 10,11-dehydroepothilone D II was obtained either by fermentation of **Myxococcus xanthus** or via a multistep synthetic sequence. The prepared epothilone derivs. were assayed for cytotoxicity against MCF-7 (breast), NCI/ADR-Res (breast, MDR), SF-268 (glioma) and NCI-H460 (lung) cancer cell lines and were assayed for tubulin polymerization inhibition.

ACCESSION NUMBER:	2002:793354 HCAPLUS
DOCUMENT NUMBER:	137:310754
TITLE:	Preparation of epothilone derivatives for pharmaceutical use in the treatment of cancer and other disorders characterized by cellular hyperproliferation
INVENTOR(S):	Ashley, Gary; Arslanian, Robert L.; Carney, John; Metcalf, Brian; Tang, Li
PATENT ASSIGNEE(S):	Kosan Biosciences, Inc., USA
SOURCE:	PCT Int. Appl., 114 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002080846	A2	20021017	WO 2002-US10468	20020402
WO 2002080846	A3	20031204		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,

KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2002156110	A1	20021024	US 2001-825876	20010403
US 6589968	B2	20030708		
US 6489314	B2	20021203	US 2001-825856	20010403
US 2002193361	A1	20021219		

PRIORITY APPLN. INFO.:	US 2001-825856 A	20010403
	US 2001-825876 A	20010403
	US 2001-269020P P	20010213

OTHER SOURCE(S): MARPAT 137:310754

L6 ANSWER 11 OF 42 HCAPLUS COPYRIGHT 2006 ACS on STN

TI Epothilone and epothilone derivatives production based on recombinant nucleic acids encoding the epithilone **polyketide** synthase from **Sorangium cellulosum**

AB Recombinant genomic nucleic acids that encode all or a portion of the epothilone **polyketide** synthase (PKS) from **Sorangium cellulosum** SMP44 are provided. The epo gene cluster comprises 71,989 bp encoding the loading **domain** (epoA), the non-ribosomal peptide synthase (NRPS, module 1, epoB), each of the remaining 8 modules of the epothilone synthase module (epoC, epoD, epoE, and epoF), and the epoK gene that encodes a cytochrome P 450-like epoxidn. enzyme. Recombinant PKS genes are expressed in host cells for the production of epothilones, epothilone derivs., and polyketides that are useful as cancer chemotherapeutics, fungicides, and immunosuppressants. Two hybrid PKS enzymes are hybrids of deoxyerythronolide B synthase (DEBS) and epothilone NRPS module. The first hybrid PKS is composed of 4 proteins: DEBS1; a fusion protein composed of the ketosynthase (**KS**) **domain** of module 3 of DEBS and all but the **KS domain** of the loading **domain** of the epothilone PKS; the epothilone NRPS module; and a fusion protein composed of the **KS domain** of module 2 of the epothilone PKS fused to the acyltransferase **domain** of module 5 of DEBS and the rest of DEBS3. The second hybrid PKS is composed of 5 proteins: DEBS1, a fusion protein composed of the **KS domain** of module 3 of DEBS and all but the **KS domain** of the epothilone PKS loading **domain** ; the epothilone NRPS module; a fusion protein composed of the **KS domain** of module 2 of epothilone PKS fused to the AT **domain** of module 4 of DEBS and the ret of DEBS2; and DEBS3. Novel epithilone derivs. are produced where these hybrid PKS are expressed in Streptomyces coelicolor or Saccharopolyspora erythraea.

ACCESSION NUMBER:	2000:368562 HCAPLUS
DOCUMENT NUMBER:	133:27369
TITLE:	Epothilone and epothilone derivatives production based on recombinant nucleic acids encoding the epithilone **polyketide** synthase from **Sorangium cellulosum**
INVENTOR(S):	Julien, Bryan; Katz, Leonard; Khosla, Chaitan; Tang, Li; Ziermann, Rainer
PATENT ASSIGNEE(S):	Kosan Biosciences, Inc., USA
SOURCE:	PCT Int. Appl., 138 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000031247	A2	20000602	WO 1999-US27438	19991119
WO 2000031247	A3	20001207		

W: AL, AM, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE,

HR, HU, IL, IS, JP, KG, KP, KR, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, UZ, VN, ZA, AZ, BY, KZ, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2350189	AA	20000602	CA 1999-2350189		19991119
EP 1135470	A2	20010926	EP 1999-960500		19991119
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO					
JP 2002530107	T2	20020917	JP 2000-584057		19991119
AU 768220	B2	20031204	AU 2000-17377		19991119
NZ 511722	A	20040528	NZ 1999-511722		19991119
US 6410301	B1	20020625	US 2000-560367		20000428
US 2003096381	A1	20030522	US 2002-191694		20020708
US 2004253697	A1	20041216	US 2004-849462		20040518
PRIORITY APPLN. INFO.:			US 1998-109401P	P	19981120
			US 1999-119386P	P	19990210
			US 1999-122620P	P	19990303
			US 1999-130560P	P	19990422
			US 1999-443501	A2	19991119
			WO 1999-US27438	W	19991119
			US 2000-560367	A1	20000428
			US 2000-724878	A1	20001128

OTHER SOURCE(S): MARPAT 133:27369

L6 ANSWER 12 OF 42 USPATFULL on STN

TI Heterologous production of polyketides

AB Recombinant E. coli host cells that comprise recombinant DNA expression vectors that drive expression of methylmalonyl CoA mutase from Propionibacterium shermanii or Streptomyces cinnamonensis as well as Propionibacterium shermanii epimerase can produce S-methylmalonyl CoA, a required substrate for the production of polyketides by most modular **polyketide** synthases and is not present in wild-type E. coli host cells.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2006:63029 USPATFULL
TITLE:	Heterologous production of polyketides
INVENTOR(S):	Santi, Daniel, San Francisco, CA, UNITED STATES Peck, Larry, San Carlos, CA, UNITED STATES Dayem, Linda, Belmont, CA, UNITED STATES Kealey, James, San Rafael, CA, UNITED STATES
PATENT ASSIGNEE(S):	Kosan Biosciences, Inc., Hayward, CA, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 7011959	B1	20060314	
APPLICATION INFO.:	US 2000-699136		20001027	(9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-161703P	19991027 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Kerr, Kathleen
LEGAL REPRESENTATIVE:	Ashley, Gary W.
NUMBER OF CLAIMS:	19
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	9 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT:	3239

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 13 OF 42 USPATFULL on STN

TI Gene encoding a nonribosomal peptide synthetase for the production of ramoplanin

AB The present invention relates to isolated genetic sequences encoding nonribosomal peptide synthetase (NRPS) proteins which direct the biosynthesis of the antibiotic ramoplanin in microorganisms such as Actinoplanes sp. The isolated gene sequences serve as substrates for bioengineering of antibiotic structures.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2005:330661 USPATFULL
TITLE:	Gene encoding a nonribosomal peptide synthetase for the production of ramoplanin
INVENTOR(S):	Farnet, Chris M., Outremont, CANADA Zazopoulos, Emmanuel, Montreal, CANADA Staffa, Alfredo, Saint-Laurent, CANADA
PATENT ASSIGNEE(S):	Ecopia BioSciences, Inc. (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005287641	A1	20051229
APPLICATION INFO.:	US 2005-205109	A1	20050817 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2001-976059, filed on 15 Oct 2001, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-239924P	20001013 (60)
	US 2001-283296P	20010412 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	ECOPIA BIOSCIENCES INC., 7290 FREDERICK-BANTING, SAINT-LAURENT, QC, H4S 2A1, CA
NUMBER OF CLAIMS:	24
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	16 Drawing Page(s)
LINE COUNT:	8081

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 14 OF 42 USPATFULL on STN

TI Biosynthetic gene cluster for ambruticins

AB Domains of ambruticin **polyketide** synthase and modification enzymes and polynucleotides encoding them are provided. Methods to prepare ambruticin in pharmaceutically useful quantities are described, as are methods to prepare ambruticin analogs and other polyketides using the polynucleotides encoding ambruticin synthase domains or modifying enzymes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2005:305795 USPATFULL
TITLE:	Biosynthetic gene cluster for ambruticins
INVENTOR(S):	Reeves, Christopher D., Orinda, CA, UNITED STATES Julien, Bryan, Oakland, CA, UNITED STATES Reid, Ralph C., San Rafael, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005266434	A1	20051201
APPLICATION INFO.:	US 2005-75185	A1	20050307 (11)

	NUMBER	DATE

PRIORITY INFORMATION: US 2004-551103P 20040308 (60)
US 2004-568290P 20040504 (60)
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: KOSAN BIOSCIENCES, INC, 3832 BAY CENTER PLACE, HAYWARD, CA, 94588, US
NUMBER OF CLAIMS: 28
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 52 Drawing Page(s)
LINE COUNT: 8324
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 15 OF 42 USPATFULL on STN
TI Biosynthetic gene cluster for jerangolids
AB Domains of jerangolid **polyketide** synthase and modification enzymes and polynucleotides encoding them are provided. Methods to prepare jerangolid in pharmaceutically useful quantities are described, as are methods to prepare jerangolid analogs and other polyketides using the polynucleotides encoding jerangolid synthase domains or modifying enzymes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2005:268053 USPATFULL
TITLE: Biosynthetic gene cluster for jerangolids
INVENTOR(S): Reeves, Christopher, Orinda, CA, UNITED STATES
Reid, Ralph C., San Rafael, CA, UNITED STATES
PATENT ASSIGNEE(S): Kosan Biosciences, Inc. (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2005233369	A1	20051020	
APPLICATION INFO.:	US 2005-109593	A1	20050418	(11)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2004-563843P	20040419 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: KOSAN BIOSCIENCES, INC, 3832 BAY CENTER PLACE, HAYWARD, CA, 94588, US
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 35 Drawing Page(s)
LINE COUNT: 5786
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his

(FILE 'HOME' ENTERED AT 09:44:32 ON 24 MAY 2006)

FILE 'MEDLINE, BIOSIS, WPIDS, FSTA, DGENE, BIOTECHDS, SCISEARCH, HCAPLUS, USPATFULL' ENTERED AT 09:45:03 ON 24 MAY 2006
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L2 0 S L1 AND (EXPRESSING DISORAZOLE POLYKETIDE SYNTHASE)
L3 0 S L1 AND (EXPRESSIN PKS)
L4 300 S L1 AND POLYKETIDE
L5 75 S L4 AND (SORANGIUM CELLULOSUM)
L6 42 S L5 AND (AT DOMAIN OR KS DOMAIN OR ACP DOMAIN)

=> e Reid, R/au
E1 1 REID ZACHARIAH J/AU
E2 1 REID ZADOCK J B W/AU

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E3            0 --> REID, R/AU
E4            1     REIDA A K/AU
E5            1     REIDA A M/AU
E6            3     REIDA ABIGAIL K/AU
E7            2     REIDA G V/AU
E8            1     REIDA K B M/AU
E9            1     REIDA M K/AU
E10           1     REIDA N/AU
E11          12     REIDA N V/AU
E12           1     REIDA NIKOLAI V/AU

=> e Julien, B/au
E1            1     JULIEN Y O P/AU
E2            1     JULIEN YANN/AU
E3            0 --> JULIEN, B/AU
E4            1     JULIENBENICHOU S/AU
E5            1     JULIENCAILHOL N/AU
E6            1     JULIENGUERRIER J/AU
E7            9     JULIENINALSINGH C/AU
E8            1     JULIENLA N/AU
E9            1     JULIENLA S/AU
E10           9     JULIENLAFERRIERE D/AU
E11           7     JULIENLAFERRIERE N/AU
E12           1     JULIENLAFERRIERE P/AU
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